# Consumer-Driven Health Plans (CDHPs)

*Are they a Viable Long-Term Solution to Rising Costs in Employer-Sponsored Health Plans?*

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## Table of Contents

## Introduction

The purpose of this master's thesis is to predict whether CDHPs are a viable long-term solution to the cost crisis facing employer-sponsored health plans. To do this, I will evaluate the current body of data on the success of CDHPs in the employer-sponsored health plan market since their introduction several years ago, and compare those results with the results of a survey of a group of benefits professionals on their experiences with CDHPs. The focus of the analysis is to gauge whether or not CDHPs have been successful in changing consumer behavior and saving employers money in health insurance premiums over time. The results of the analysis will be used to predict the future of CDHP's role in the U.S. employer-sponsored healthcare system.

The thesis will begin with an overview of the history of the employer-sponsored health insurance market, as well as the relevant background on CDHPs. I will then review the data available thus far relevant to CDHPs before reviewing the results of my own survey. I will then conclude with a discussion of the overall results and a prediction regarding whether CDHPs will have a significant role in the future of the employer-sponsored health insurance market.

## Employer-Sponsored Health Insurance

Today, the majority of Americans under the age of 65 receive health insurance coverage through their employer. In 2006, this represented 158 million individuals, or approximately 61% of the American population under age 65.[1] Individuals who do not have health insurance coverage through their employer may be covered by a public program such as Medicaid or Medicare, through a private individual health insurance plan, or unfortunately be uninsured.

The offering of health insurance by employers in the U.S. became more prevalent around the time of World War II, when the government exempted fringe benefits (which health insurance is considered) from the controls on wages that were in place during wartime.[2] Offering health insurance therefore became a way of competing for workers at a time when wages could not be used to do so. During and following the wartime era, the U.S. also saw the formation of the earliest managed care plans, which were developed to provide prepaid financing of medical expenses in return for access to groups of providers.[3]

These plans were termed Health Maintenance Organizations (HMOs), and were developed initially to provide financed health care coverage to specific employer groups. For example, the Kaiser Foundation Health Plans were started in California to cover the medical care of the Kaiser construction company and the Health Insurance Plan (HIP) of New York was created to cover the employees of New York City.[4]

HMOs fundamentally changed the way health care was financed, as these plans shifted the burden of financial risk from the insurance company to the

providers offering medical care. In an HMO, the physician is traditionally paid a per person monthly fee (or capitation fee) for every person choosing them as their primary care doctor, regardless of how many services they use or the extent of their medical needs. This shifts the burden to the physician to manage the care of the individuals they provide services to, and limits the financial risk of the HMO itself. In an HMO, the primary care physician serves as the insured individual's "gatekeeper." The gatekeeper must always be the first entry point to medical services, and in order for the insured to seek specialty care, they must receive a referral from their gatekeeper first. Additionally, in an HMO insured individuals can only seek care from the group of physicians participating in the HMO's network, therefore guaranteeing participating physicians a certain minimal level of payment and business. Services rendered by providers outside of the HMO's network are not covered by the plan, unless for emergency services.

HMOs did not play a significant role in the financing of health care until the enactment of the Federal HMO Act of 1973.[5] Until that time, employers not offering an HMO offered an indemnity insurance plan to employees, which allowed employees to utilize any physician or hospital available and typically required the employee to pay a set percentage of the cost (for example, 20%) for all services. The Federal HMO Act provided grants and loans to help the development of additional HMOs and expand the service areas of those that already existed.[6] More importantly, the act required employers with 25 or more employees who offered indemnity coverage to also offer HMO plans to their employees as well.[7] This part of the act was later repealed, but HMOs continued

to grow in the employer-sponsored market in the 1970s and 1980s, and into the 1990s.

Although the beginnings of managed care initially were defined by the HMO, soon after the health insurance market introduced new plans which offered more flexibility to participating physicians and to plan members. Following the introduction of the HMO, the next type of plan offered in the marketplace was the Preferred Provider Organization, or PPO. PPOs are also managed care plans which finance the medical care of individual participants, but with some major differences. The first major difference is that participating physicians are generally not paid by capitation, so therefore do not take on the financial risk for providing services like they would in an HMO.[8] Alternatively, physicians are typically paid on a fee-for-service basis.

Additionally, plan members may access any provider they choose, but face financial incentives to utilize providers in the PPO's network. The network is the group of physicians and hospitals contracted with the managed care plan. Providers in the plan's network typically agree to lower fees for services (called negotiated discounts) and in exchange they are likely to receive more business since they are listed as "in-network." Provider discounts vary by plan, by geographical region and by provider type. If an individual uses a physician that is not in the PPO's network, they traditionally pay a higher share of the cost of their services.[9]

Yet another variety of managed care plan is the Point of Service (POS) plan. A POS plan sits in between the HMO and PPO in the spectrum of managed

care plans in that while it does provide coverage to providers that are not in the plan's network, it still requires the individual to utilize a gatekeeper for specialty services.[10] Additionally, a POS plan traditionally requires participants to pay a higher share of the cost for out-of-network services when compared to a PPO plan. The chart below provides a high-level overview of the difference in design of each of the four major plan types we have described. Costs as a dollar amount and a percentage are illustrated to show how much the individual insured by the plan would pay.

***High-Level Overview of Traditional Health Plans[11]***

| **Plan Type** | **Indemnity Plan** | **PPO Plan** | | **POS Plan** | | **HMO Plan** | |
|---|---|---|---|---|---|---|---|
| | No Network | In-Network | Out-of-Network | In-Network | Out-of-Network | In-Network | Out-of-Network |
| Deductible (Single/Family) | $250/$500 | $250/$500 | $500/$1,000 | None/None | $1,000/$2,000 | None | No Coverage |
| Coinsurance | 20% | 0% | 20% | 0% | 30% | 0% | No Coverage |
| Out of Pocket Maximum (Single/Family) | $2,500/$5,000 | None/None | $2,000/$4,000 | None/None | $3,000/$6,000 | None | No Coverage |
| Gatekeeper Required? | No | No | | Yes | | Yes | |
| Office Visit | 20% | $10 co-pay | 20% | $10 co-pay | 30% | $10 co-pay | No Coverage |

Before moving forward, I want to fully explain what is illustrated in the chart above. In the most left-handed column are a set of five features included in most managed care plans. The first item listed is the plan's deductible. This is the amount the individual(s) must pay before any medical services are covered in the policy year, much like the deductible you have on your car insurance policy. After the deductible is met, the cost of most services covered by the plan is shared. The percentage of the cost of services the individual covered pays is called coinsurance. The next feature listed is the plan's out-of-pocket maximum, which is the maximum amount the individual(s) covered under the plan must pay

in total for services during the policy year. Once the total amount of coinsurance paid meets the out-of-pocket maximum, any additional services provided are typically covered in full with no out-of-pocket responsibility of the insured individual. Whether or not the plan requires a gatekeeper is the next feature listed, which has already been defined.

Another feature shown in the chart is the co-pay or coinsurance required for a physicians office visit. This is illustrated separately because office visits, especially for preventive care, are typically covered at a set co-pay level when rendered in the network without requiring fulfillment of the deductible. Most plans function this way so that the cost to individuals for annual physicals and check-ups is minimized. The difference in coverage in and out-of-network is also shown in the columns of the chart (except for the indemnity plan as it does not have a network).

It is important to note that employer-sponsored health plans vary greatly in terms of design. An employer may offer one or more managed care plan to their employees and the specific deductible, co-pay, coinsurance and other features, as well as the list of covered services, will vary for each. Employers may choose to design their health plan a certain way in order to influence the behavior of the individuals covered under the plan and also to lower the overall cost of coverage for the employer. For example, most employers design a PPO plan to include higher deductibles and coinsurance out-of-network. This influences participants to use in-network providers, thereby reducing the cost to those covered by the plan and the plan itself. Additionally, a plan may charge a higher co-pay for

specialist office visits than for primary care office visits in order to dampen utilization of specialty care which is often more expensive and may be over-utilized, and to ensure members pay more for higher cost services.

In regards to the types of plans offered by employers, the chart below shows data from Mercer's 1994 and 2007 National Surveys of Employer-Sponsored Health Plans to illustrate the change over time in the type of health plan most frequently offered by employers and the level of enrollment by employees (including CDHPs for 2007).[12] As you can see, today most employers offer at least one PPO plan to their employees. PPOs have become the most popular type of plan, accounting for approximately sixty-one percent of national enrollment in employer-sponsored health plans in 2007. During this same time period, enrollment in HMO and POS plans stagnated and enrollment in indemnity plans decreased significantly.[13]

***Percent of Employers Offering and Employees Enrolled by Health Plan Type[14]***

| | 1994 | 2007 | % Change |
|---|---|---|---|
| **PERCENT OF EMPLOYERS OFFERING:** | | | |
| Preferred Provider Organizations | 30% | 64% | 113% |
| Point-of-Service Plans | 15% | 15% | 0% |
| Health Maintenance Organizations | 22% | 28% | 27% |
| Consumer-Directed Health Plans | N/A | 7% | N/A |
| Traditional Indemnity Plans | 46% | 7% | -85% |
| | **1994** | **2007** | **% Change** |
| **PERCENT OF EMPLOYEES ENROLLED:** | | | |
| Preferred Provider Organizations | 25% | 61% | 144% |
| Point-of-Service Plans | 15% | 8% | -47% |
| Health Maintenance Organizations | 23% | 23% | 0% |
| Consumer-Directed Health Plans | N/A | 5% | N/A |
| Traditional Indemnity Plans | 37% | 3% | -92% |

In addition to the coverage and network components of employer-sponsored health plans which have already been discussed, it is important to discuss some of the other important techniques managed care plans use today to

control utilization and cost. These features may not be found in all employer-sponsored health plans, and typically you will find more features in a more tightly managed plan like an HMO than you will in a more flexible design such as a PPO. An indemnity plan may have no managed care features at all. Because it is not within the confines of this research paper to discuss all techniques used in managed care plans, I will only review a few of the most frequently used managed care techniques today.

One of the most prevalent managed care techniques found in employer-sponsored health plans today is prior authorization. Prior authorization requires individuals to have certain services pre-approved before coverage for services is provided. Most plans only require prior authorization for services which may be costly or that have a history of overuse, such as in-patient hospitalization, mental health and substance abuse services and certain prescription drugs.[15] If services are not being used appropriately, they may be denied. The requirement to use a gatekeeper, which we have already discussed, is another managed care technique that is intended to reduce the unnecessary utilization of specialty care services, although this feature is seen less frequently in plans today.[16]

Another frequent managed care feature found in many employer-sponsored health plans is utilization review. Utilization review either occurs while care is being provided or after care has been provided to review the necessity and reasonableness of a set of services (for an inpatient hospital stay, for example).[17] Utilization review which occurs while services are provided is called concurrent review and utilization review taking place after treatment has already

been given is called retrospective review.[18] The use of retrospective review in employer-sponsored health plans has diminished as plans over time found it had no real impact on cost since it occurred after care was already provided.[19] However, concurrent review still exists in most plans today.

The final managed care technique I will review is case management. Case management techniques aim to coordinate care for patients with high cost and complex needs. There may be a single case manager or a team of providers who work with a patient, their family, the treating physician and the employer-sponsored health plan to determine the appropriate treatment plan while the patient is both inpatient and after they are discharged.[20] This process aims to improve the quality of care for the patient and ensure more successful long-term outcomes. Since highly complex cases tend to be extremely high in cost, most employer-sponsored plans have case management services included today.

Thus far, my review of employer-sponsored health insurance has focused mostly on the traditional managed care plans offered by employers since the 1970s, including indemnity plans, HMOs, PPOs and POS plans. I will now shift my focus to discuss the change in health care spending over the last twenty or so years, and then will provide the relevant background on the origin of CDHPs before leading into my survey data and research analysis.

## Health Care Spending and Employer-Sponsored Insurance Costs

The United States has experienced significant increases in per capita spending on health care for several years, which has led to higher health insurance premiums for employers. For example, the chart below illustrates the change in premium cost per employee from 1994 to 2007 for the four traditional types of employer-sponsored health plans. Please note cost figures do not adjust for inflation over time.

***Change in Employer-Sponsored Health Insurance Premium over Time***[21]

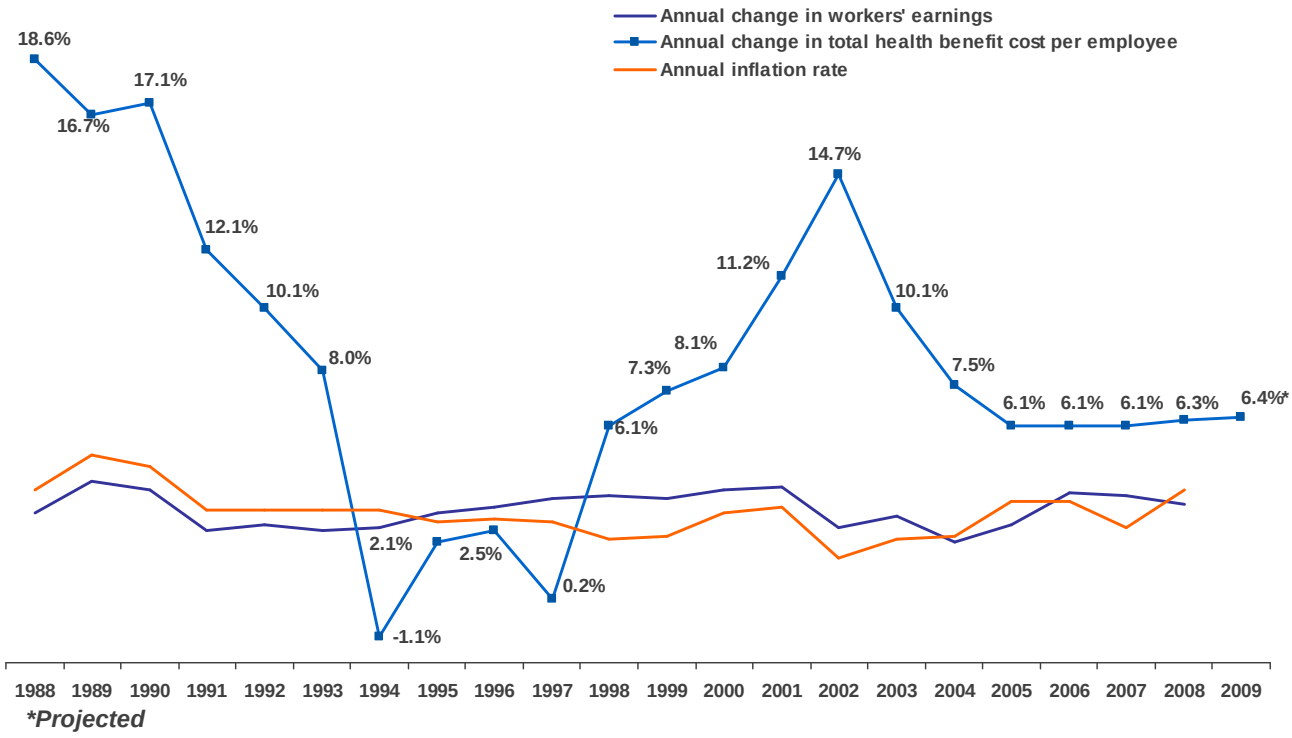
| Average cost per employee | 1994 | 2007 | % Change | $ Change |
|---|---|---|---|---|
| Preferred Provider Organizations | $3,238 | $7,352 | 127% | $4,114 |
| Point-of-Service Plans | $3,302 | $7,714 | 134% | $4,412 |
| Health Maintenance Organizations | $3,385 | $7,120 | 110% | $3,735 |
| Traditional Indemnity Plans | $3,495 | $7,120 | 104% | $3,625 |

The significant rise in the cost of health insurance over time has led to a difficult dilemma for most employers in the U.S. As the cost of health insurance has increased, employers have had to balance shifting significant cost to employees through higher employee contributions and deductibles, co-pays and coinsurance with maintaining a high quality plan that will attract and retain needed talent. Some employers, especially small businesses, have had to drastically cut benefits or even eliminate health insurance altogether as they have not been able to afford the increase in cost over time. Employees themselves have also faced extreme financial pressure over this period as the rate of increase in employee wages has traditionally been much lower than the change in health insurance premiums and therefore employee contributions. This means that over

time more of a workers' paycheck has gone to paying for health insurance than to pay for other family needs.

The chart below illustrates the change in total health benefit cost per employee over time versus the change in workers' earnings and general inflation from 1998 to 2009. Total health benefit cost includes the cost of premiums for employer-sponsored health insurance programs including medical, drug, dental and vision care. As you can see, the chart shows that since the mid to late 1990s, the cost of health insurance premiums for employer-sponsored health plans has risen two to three times the rate of change in workers' earnings and overall inflation.

***Total Health Benefit Cost Change vs. the Change in Workers' Earnings and General Inflation, 1988-2009***[22]



As you can see from the chart above, until the early to mid-1990s, the rate of increase in health insurance premiums was actually decreasing, to the point where in the mid 1990s there were a few years where increases in insurance premiums were minimal and lower than the rate of increase in inflation and wages. This period of cost dampening was a direct result of the introduction and increased use of managed care in employer-sponsored health plans.

Employers looked to managed care to control costs by reducing the price of services and also the actual use of services, and for many years it worked.[23] However, in the mid-1990s both providers and health plan participants began to push back against the tight controls of managed care, leading plans to loosen up on the tight utilization and price controls and making plans more flexible. Doing so resulted in the long period of time from the mid to late-1990s to the early 2000s where health insurance premiums increased drastically as the effects of the relaxing of managed care techniques was realized.

Since 2005, the rate of increase in health insurance premiums has actually stabilized to around 6 percent, and is projected to be about 6.4 percent again for 2009. The stabilization in the rate of change in health insurance premiums does not mean the underlying change in cost has been stable during this period. Employers have implemented incremental increases in deductibles, co-pays and coinsurance during this time which has helped lower the rate of increase in premiums overall. For example, Mercer's 2008 National Survey of Employer-Sponsored Health Plans shows that the median individual deductible in a PPO plan (not a CDHP) for employers nationally is $1,000.[24]

Why have health care costs and health insurance premiums risen so much over time? There are many reasons cited that are hotly debated, but everyone agrees a solution is needed. In 2005, the U.S. spent $2 trillion on health care, which is approximately 16% of the Gross Domestic Product or GDP.[25] Additionally, when you compare health spending in the U.S. to that of other countries, as of 2004 U.S. spending on health care was approximately 13 percent higher than the next highest spending country, and 90 percent higher than many of our global competitors.[26]

In terms of causes of this rapid increase in health care cost, some believe that managed care plans have actually increased the rise in health care costs over time, because historically health plans have left individuals insulated from the true cost of care. Between 1970 and 2005 when managed care plans flourished, the share of health expenses paid out-of-pocket by consumers fell significantly from about 40 percent to 15 percent.[27] From an economist's point of view, the presence of health insurance itself influences consumers to take fewer precautions to prevent illness or to shop very little for the best medical prices, leading to an increase in the consumption of medical care – better known as moral hazard, which we mentioned previously[28]. Although the extent and impact of moral hazard cannot be measured, it logically makes sense that if the price to the consumer is zero, there is little reason for the consumer to make a choice based on price.

Kenneth Thorpe of Emory University postulates in his December 2005 article in *Health Affairs* that the spending increase per capita on health care

(defined as the growth in spending per treated case times the number of cases treated) can be attributed to three main factors[29]:

1. A rise in treated disease prevalence - this is due to both higher rates of obesity, diabetes, hypertension, mental health conditions, etc. and to an increase in the number of medical treatments available for individuals with these chronic conditions. Within this category, the author estimates that the rise in *modifiable* population risk factors such as obesity accounted for approximately 27 percent of the change in health spending between 1987 and 2002.[30]
2. Changes in clinical thresholds for treatment – this has resulted in earlier and more aggressive treatments and more patients being treated who are asymptomatic. A focus on preventive care and early detection of chronic conditions has meant that the number of individuals treated for these conditions has increased over time.
3. Innovations in treatment – this includes new medical procedures and prescription drug treatment options to improve care for individuals. Innovations can be extremely expensive and oftentimes may be additive to a treatment plan (meaning you get an x-ray AND an MRI instead of an MRI instead of an x-ray).

While much attention is given to changes in medical technology and innovation as a major contributor to health care inflation, Professor Thorpe believes the majority of the increase in real per capita health care spending is estimated to be due to the rise in treated disease prevalence, and he believes that is

where health reform efforts should focus.[31] Instead of utilizing insurance-based solutions such as changes to managed care plans and introducing CDHPs as we will discuss later, he believes reform should focus on health promotion, public health interventions and the cost-effective use of medical care to reduce cost.[32]

A final reason often cited for the rising cost of health care and health insurance are the tax subsidies given to employers and employees related to health insurance. Employees who currently pay a portion of the cost of their health insurance premiums can deduct those premiums from income for tax purposes and employers paying part or all of the health insurance premiums for their employees can do so and may deduct premiums as a business expense. There is currently no limit on the amount of deduction for either the employee or the employer. Because of this, some argue that these tax subsidies provide disincentives for organizations to lower the cost of health insurance premiums, thereby encouraging the purchase of very comprehensive, high cost plans.[33]

**Background of CDHPs**

The incremental increase in health care spending and health insurance premiums over time with the acknowledgement that consumers have been relatively insulated from the true cost of health care services led to the original development of CDHPs. To curb demand by requiring consumers to share in the cost of health care, traditional health insurance products have already incrementally increased plan features such as coinsurance, deductibles and co-pays. Although these features have impacted utilization somewhat, they traditionally have not required enough cost-sharing to significantly change consumer behavior. Thus, CDHPs were developed to increase the level of cost-sharing at a level high enough to have a long-term effect on consumer's health care purchasing habits.

CDHPs are a relatively new insurance model created to engage consumers in purchasing health care services with hope that the new model will produce long-term cost savings. CDHPs combine a High-Deductible Health Plan (HDHP) with one of two types of accounts – a Health Reimbursement Account (HRA) or a Health Savings Account (HSA). A HDHP is typically similar to a PPO plan which I have described earlier but with a much higher deductible, requiring participants to pay a certain level of cost before the plan covers services at all.

HRAs were first introduced into the marketplace following IRS regulations in 2001-2002 and HSAs were first authorized by the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003[34]. The prevalence of CDHPs in the marketplace is still fairly small, but growth has been steady since their introduction. Enrollment in CDHPs has grown as well, but at

even lower rates. The Mercer 2008 Survey of Employer-Sponsored Health Plans reports that approximately seven percent of employees were enrolled in a CDHP in 2008[35].

An HRA is an employer-funded account used to pay qualified medical out-of-pocket expenses. An HSA in theory is similar but can be funded by the employee and the employer, and it has additional investment and savings features that make it quite a bit more complex. An HSA actually allows individuals, who meet certain coverage criteria defined by the IRS to save, invest and grow money in their account and use it for either current or future health care expenses. For an individual to be eligible to contribute to an HSA, however, the underlying health plan which covers them must meet strict design criteria which changes each year. Because of the savings and investment features of the HSA, some employers believe they are good vehicles to help individuals pay for retiree medical costs.

An HRA or HSA is coupled with a HDHP to help the insured individual pay for part of their care before they meet their deductible, which is typically $1,000 or greater (in the case of an HSA, the minimum deductibles and out-of-pocket maximums are actually set by the IRS each year). In a HDHP, because the consumer is responsible for paying for the full cost of care up to the deductible, (even if they do have a spending account to help pay for part of it), the theory is that they will use their money more wisely because when they become aware of the true cost of services, they will make better health care services purchasing decisions, resulting in cost savings for the consumer and the health plan or

employer over time. The problem with this theory is that to this point, there has been a lack of market cost data available to help consumers make these decisions.

The theory that utilization can be impacted by instituting a HDHP has somewhat been validated in the past through The RAND Health Insurance Experiment (HIE). The RAND HIE was conducted in the 1970s and 1980s and evaluated the utilization impact of different plans by randomizing families into health insurance plans that varied their cost-sharing from none (services were covered in full) to a catastrophic coverage plan with a large deductible.[36] The results of the RAND HIE showed that individuals in the catastrophic coverage plans with large deductibles used 25-30 percent fewer services than those in the plan with zero cost-sharing.[37]

In terms of impact on health for those who were enrolled in a catastrophic plan, the results of the RAND study showed that for average Americans in the study who had been covered on an employer-sponsored health plan previously, there was no adverse impact on health.[38] However, for those who were both poor and sick, the impact of the difference in coverage did have an adverse effect on health, as their reduction in use of services was harmful. [39] These harms occurred despite the adjustment in cost-sharing that occurred in the study for participants in low-income families.[40] From these results, one can infer that adjusting levels of cost-sharing is a good tool to reduce utilization, as long as the population impacted is not so poor that doing so will result in under use of necessary services which may impact long-term health.

In terms of the differences between an HSA and an HRA, there are some important ones to be aware of, which are summarized in the chart below.

***Major Differences Between an HSA and an HRA***

| Feature | HRA | HSA |
|---|---|---|
| Account Funding | The account can be funded by employer money only. | The account can be funded by a combination of employee and employer money. |
| Plan Design Requirements | There are no legal requirements for the underlying health plan (typically a PPO plan with a large deductible). | IRS mandates the underlying health plan's design. In 2009, the minimum deductibles will be $1,150 for an individual and $2,300 for a family[41]. |
| Account Ownership | The account is employer-owned. It is not portable when the employee terminates employment and all funds are returned to the employer. | The account is employee-owned. It is portable when the employee terminates employment, and all funds are kept by the employee (even those contributed by the employer). |
| Tax Advantages | Funds for qualified medical expenses are non-taxable to the employer and the employee. | The accounts are triple-tax favored. Contributions go in tax-free, the account funds can grow tax-free, and distributions for qualified expenses are made tax-free. |

Although the prevalence of CDHPs is still fairly low, they have received a lot of attention and are subject to debate for many reasons. The truth is it is still too early to tell if CDHPs will have a long-term impact on the cost of health care, or even if they will survive as a viable health plan design in the foreseeable future.

Before reviewing results from current studies on CDHPs, let's discuss some of their pros and cons.

***CDHP Pros:***

- CDHPs theoretically encourage consumers to take a more active role in the delivery of their health care services, with the hope that services are utilized more efficiently.
- CDHPs may encourage price transparency in the market because of the pressure they put to release cost data. This may increase competition over time and drive prices for services down.
- HSAs provide an investment vehicle for consumers to save for their future health care needs into retirement.
- Reductions in employer costs attributable to CDHPs should result in increased employee wages over time because as the cost of health insurance decreases, employers have more money to allocate to employee wages (since they have a finite budget to pay for both wages and fringe benefits)[42].
- CDHPs are lower cost plans for employers to offer, so individuals who may not be able to afford any coverage now may elect to enroll in a CDHP. Additionally, employers who could not afford to offer health insurance to workers may be able to afford to offer a CDHP.
- Most health insurance plans today do not follow the traditional rules of insurance and risk by only covering non-recurring, unpredictable events. Today's plans insure against recurring, predictable health care

expenditures and are more like prepaid health care plans[43]. CDHPs can reverse this trend.

- IRS rules allow preventive care to be covered in full without fulfillment of the deductible, even in HSAs. This allows employers the flexibility of designing a CDHP without worrying that the plan design may influence participants to forego annual physicals and regular check-ups.

***CDHP Cons:***

- CDHPs may encourage consumers to forego necessary treatment for cost-reasons, leading to negative long-term health outcomes and increases health care costs over time, especially for low-income consumers.
- Consumers do not yet have access to the price and quality information necessary to make informed health care purchasing decisions. This is absolutely necessary to make CDHPs successful.
- CDHPs unfairly advantage high-income individuals because of their tax advantages (some low-income individuals may not pay income tax at all).
- Although the cost of CDHPs may be lower when compared to traditional plans, the cost difference may not be large enough to result in higher wages for workers. Until a much larger percentage of employers offer CDHPs with a much larger percentage of enrollment, it is unlikely simply offering a CDHP will have much impact.
- For employers offering a CDHP as one of two or more health plan choices, it is likely that adverse selection into CDHPs may drive the cost

of traditional plans up by worsening the risk pools as the healthier, younger population is more likely to choose the lower coverage CDHP.

- CDHPs have limited potential for cost containment, because most of the nation's health care costs are for expensive procedures or chronically ill patients who will undoubtedly exceed the deductibles found in HDHPs[44]. This correlates to the principle known in the insurance industry as the "80/20 rule" which refers to the fact that 20 percent of an insured population incurs approximately 80 percent of the health insurance plan's cost. For these individuals, instituting a CDHP will likely have little to no impact on their health care services purchasing behavior.
- Expansions of HSAs would lead to a revenue loss for the federal government because of the tax breaks they offer. HSAs allow individuals to contribute normally taxable dollars into an account which is tax-sheltered and after a certain age individuals can make purchases of any type (for example, a car) without tax consequence[45].
- CDHPs may lead to greater reliance on the non-group market and individuals are able to purchase lower cost CDHP plans in the private individual market. This will likely lead to increases in administrative costs[46].

**Empirical Research to Date & Early Results for CDHPs:**

This next section of my thesis will focus on the studies and analyses published thus far on the impact of CDHPs. I will provide a brief overview of each relevant study, including a summary of the methodology and results of each.

***EBRI/Commonwealth Fund Consumerism in Health Care Survey, 2008***[47]

The Employee Benefits Research Institute (EBRI) in conjunction with The Commonwealth Fund began an annual consumerism survey in 2005 to provide nationally representative data regarding the growth of CDHPs and their impact on behavior. The 2008 survey was conducted via online survey and included 4,532 privately insured adults aged 21-64.

Results from the 2008 EBRI survey showed the following major trends related to CDHP participants:

1. CDHP participants were significantly more likely to have a high income, be in better health and to exhibit healthy behaviors compared to those enrolled in a traditional health plan.
2. CDHP participants were not more likely than those with comprehensive coverage to delay or avoid needed care because of cost.
3. CDHP participants were as satisfied with the quality of care they received compared to those in a traditional health plan. However, it's important to remember that individuals in these plans were healthier than those in a traditional health plan, so they need less care.

4. Individuals in CDHPs were less likely to recommend their health plan to others or remain enrolled in their current plan if an alternative option was offered, compared to those enrolled in traditional health insurance.
5. CDHP participants exhibited more cost-conscious behavior than individuals in traditional health plans. However, the results showed that cost-conscious behavior also increased in traditional plans (most likely due to increasing cost-sharing in traditional plan designs as well).

The survey results showed no other significant differences in health care service use across plans.

The 2008 EBRI survey shows somewhat mixed results related to CDHPs. Although skipping care does not seem an issue for those in a CDHP, since the population overall had higher incomes and were healthier, they needed fewer services. Additionally, this survey provides some evidence that adverse selection may exist in regards to CDHP enrollment, because of the large differences in demographics when comparing those enrolled in CDHPs compared to traditional health plans. Adverse selection is an insurance term describing that those who tend to be sicker and need more care are more likely to enroll in a higher coverage plan when faced with a choice. This means a lower coverage plan will tend to have healthier, younger individuals if offered as a choice alongside a higher cost plan. In the long-term, this could have a large effect on insurance pools over time as enrollment in CDHPs continues to grow. These differences may disappear as more employers offer CDHPs to their employees, as this would broaden the demographics of CDHP risk pools, but that remains to be seen.

### *Aetna 2008 HealthFund Study Results*[48]

Aetna was one of the first major insurance carriers to offer CDHPs and to heavily invest in the tools and products necessary to expand CDHPs. Aetna began studying membership in their HRA and HSA products in 2003. The 2008 study compares Aetna's membership in their CDHP products (205,000) to their membership in their traditional Preferred Provider Organization (PPO) plans (1.2 million) from 2002 to 2006.

Results from the 2008 Aetna HealthFund study showed the following major trends related to CDHP participants:

1. Employers offering a CDHP to employees as a choice or as the only option continued to realize major savings compared to employers offering traditional plans. Those offering a CDHP as the only health plan options to employees saved approximately $2.1 million in savings per 1,000 members over 4 years, and those offering a CDHP as an option saved approximately $500,000 in savings per 1,000 members over 4 years.
2. Individuals in a CDHP are more cost-conscious purchasers of prescription drugs. CDHP participants are more likely to purchase generic drugs over brand-name drugs and use mail-order programs when compared to those in more traditional PPO coverage.
3. Aetna CDHP participants spend 20 percent more on preventive care than those in a traditional Aetna PPO plan. Additionally, CDHP participants continue to take medications for chronic conditions and are twice as likely to use online information to make health care purchasing decisions.

4. Over half of CDHP participants with an HRA are rolling over part of their account funds into the next year, and approximately 95 percent with an HSA are rolling over part of their account funds.

The 2008 Aetna HealthFund study results are overall very positive by showing that groups do realize cost-savings when a CDHP is implemented and that the cost-savings are not realized because members are avoiding health care services. The point regarding increased spending on preventive care for CDHP participants is an extremely important point to focus on, because critics of CDHPs have vocalized that increasing cost-sharing responsibilities of individuals will force them to forego treatment. Most CDHP experts recommend designing the CDHP to cover preventive care in full without requiring fulfillment of the deductible to lower the cost barrier for participants to seek regular preventive care. This means that preventive care in some cases is less expensive to a participant in a CDHP than a participant in a traditional health plan that might require payment of a co-pay and/or a level of coinsurance. This design feature of most CDHPs is likely the reason behind the increased use of preventive services by CDHP participants in this study.

It is important to note this study was conducted by an insurance carrier, and therefore may be written with some bias. It will be interesting to see over the long-term if they also publish membership health status data to determine if the health status of participants in CDHPs has been impacted over time. Additionally, the report did not discuss participant satisfaction statistics, which are important to gauge the success of any program.

***Mercer's National Survey of Employer-Sponsored Health Plans, 2008***[49]

Mercer conducts an annual survey of employer-sponsored health plans and began surveying CDHPs in 2004. Mercer uses a national probability sample of public and private employers with at least 10 employees. In 2008, approximately 3,000 employers participated in the Mercer survey.

The 2008 survey results show approximately 10% of employers offer a CDHP and approximately 7% of employees are enrolled in such a plan. The survey also showed that CDHPs delivered a substantially lower cost per employee per year (PEPY) than traditional plans such as PPOs and HMOs:

- CDHPs: $6,207 PEPY
- HMOs: $7,768 PEPY (+25.1% over CDHP PEPY)
- PPOs: $7,029 PEPY (+25.9% over CDHP PEPY)

Results from the 2008 Mercer survey showed the following major trends related to CDHP and HDHP participants:

1. Employers are more likely to offer an HSA-based CDHP plan, whereas employees are more likely to enroll in an HRA-based CDHP plan (likely because the deductibles tend to be lower in an HRA).
2. Employers have seen an increase in the use of health information in populations participating in a CDHP.
3. Approximately 71 percent of employers offering a HRA and 63 percent of employers offering an HSA assess the employee response to the health plan as being either strongly positive or more positive than negative.

4. Most employers offering a CDHP cover preventive care at 100% (no coinsurance, deductible or copay required) and almost all employers surveyed believe participants receive appropriate preventive, acute and chronic care.

The Mercer survey results show promise for the ability of CDHPs to deliver cost-savings in the immediate future, however, the study results are based on averages and plan designs may vary widely. In addition, the Mercer survey provided aggregate PEPY cost data, but did not provide any data on consumer behavior. Also, as with the other studies, some of the cost differential could be due to adverse selection since most of the employers participating offer a CDHP as a benefit option. Finally, the survey does not capture health outcomes data or measure health status of the groups participating in the survey, which is an important aspect to consider in measuring the long-term viability of CDHPs as a savings vehicle.

***Milliman's Consumer-Driven Impact Study***[50]

Milliman is an independent actuarial consulting firm. Their 2008 study analyzed six employer programs with approximately 30,000 employees enrolled. Milliman's objective was to provide an independent analysis of the value of CDHPs based on a quantitative analysis. They did this by comparing the actual claims experience of the participating employer groups offering CDHPs to what is known as expected risk characteristics of those choosing CDHPs or non-CDHPs. In addition, their methodology includes adjustment to the claims experience (of the CDHP and non-CDHP groups) to account for differences in benefit design,

age, gender, risk score (based on the group's medical conditions) and geographic location.

Key findings from the 2008 Milliman study include:

1. Employer-paid costs are lower in CDHPs; however, this is expected because of the much higher cost-sharing in CDHPs. While most employers analyzed showed savings in the CDHP plan, a lot of the illusory savings disappeared once risk and plan design characteristics were adjusted for. This means that a large part of the realized savings in CDHPs is due to the healthier enrollment.
2. Enrollment in CDHPs is largely by younger and healthier individuals.
3. Most of the cost savings shown for CDHPs after adjusting for the group's risk profile is due to the difference in the underlying plan design (individuals pay more out-of-pocket). Milliman estimates only about 1.5% of the savings may be attributed to changes in consumer behavior and lifestyle.

The Milliman study results are not negative, but they do show more moderate savings projections compared to some of the other CDHP studies available. This is likely due to the actuarial adjustments completed by Milliman to take most of the differences in the groups out of their calculations, and show the true savings realized from the CDHP design. However, as noted in the study, this analysis only focused on cost savings, it did not focus on the potential for avoiding needed care, and the long-term cost impacts such behavior can have down the road.

***BCBS Association 2008 Consumer Driven Health Plans Member Experience Survey***[51]

The BCBS Association conducted a CDHP Member Experience Survey in 2008 using a web-based survey of 2,791 consumers aged 18-64 with private health insurance. 1,601 of the participants were enrolled in a CDHP plan with an HSA, 241 were enrolled in a CDHP plan with an HRA and 949 were in a non-CDHP (or traditional) health plan. BCBS is one of the largest insurers in the country; they serve approximately 4.4 million CDHP enrollees (2.9 million with an HSA and 1.5 million with an HRA).

Key findings from the 2008 BCBS Association survey include:

1. Although the demographics of enrollment continue to show that CDHP enrollees are younger with higher incomes overall than non-CDHP enrollees, the difference has steadily decreased over time since 2005.
2. CDHP participants are more cost-conscious consumers of health care. For example, the survey shows a higher percentage of CDHP participants choose lower cost treatments and use mail-order prescriptions compared to non-CDHP participants.
3. CDHP participants are more likely to participate in a health or wellness program compared to non-CDHP participants.
4. CDHP participants received more preventive services, and did not use other necessary care more or less than non-CDHP participants.

5. Although CDHP participants are not foregoing needed care, there are still realized savings of approximately $615 per individual per year if a CDHP is offered as a choice alongside another traditional non-CDHP plan and $1,074 per individual per year if the CDHP is the only plan offered by the employer.

Similar to other insurance carrier reports, the BCBS Association survey reports positive results overall. The survey reports that participants are not foregoing care, but this study included a fairly small sample size overall relative to all of BCBS' 4.4 million CDHP members. I was interested in reviewing the results because BCBS is one of the largest national insurance carriers, but I think a study inclusive of a larger proportion of their members would provide more meaningful results.

## Survey Study Results

In order to further analyze the impact of CDHPs thus far and their place in the future of the employer-sponsored healthcare market, I designed and conducted an original survey to compare the results of the studies published to-date against the experiences and opinions of a group of employee benefit experts who regularly work with employer-sponsored health plans. The survey was conducted over a twelve day period in February, 2009 using SurveyMonkey, a professional survey software tool, and sent via email to all requested participants.

All individuals received a participant letter describing the purpose of the survey, and an information sheet with further information regarding use and confidentiality of the data. Requested participants were a group of benefits professionals, with varied levels of experience dealing with CDHPs. The survey was delivered to 60 individuals with 38 completing the survey, for a 63.3% response rate.

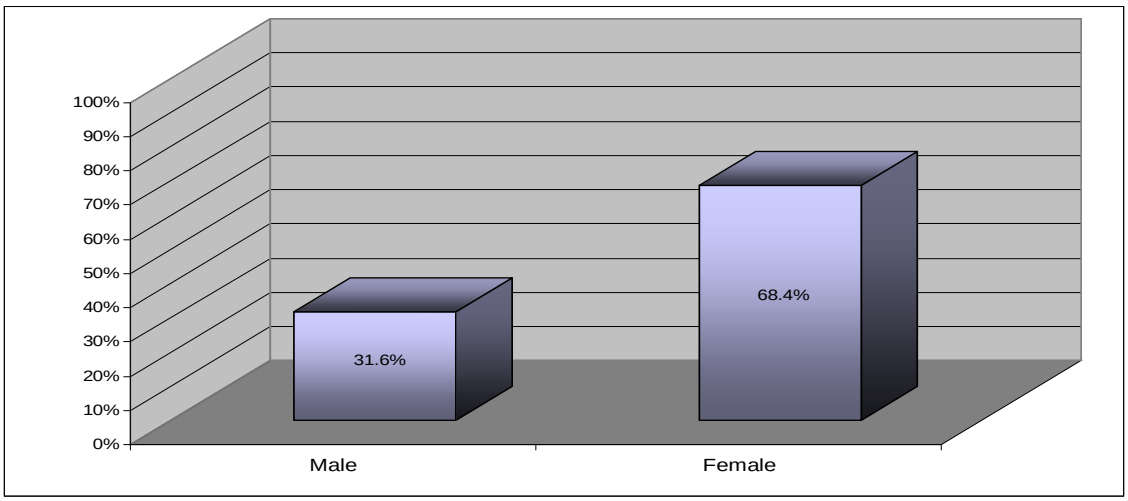
The survey had sixteen questions split into three main categories: (1) basic demographic questions, (2) questions related to individuals' client experiences with CDHPs and (3) questions related to their own opinion of CDHPs. The results of my survey are illustrated over the next several pages, with my conclusion to follow.

### *Respondent Demographics*

In order to get an idea of the demographic profile of the respondents, my survey asked three questions related to participant's gender, age and political affiliation. As illustrated in Figure 1, the majority (68.4%) of the respondents

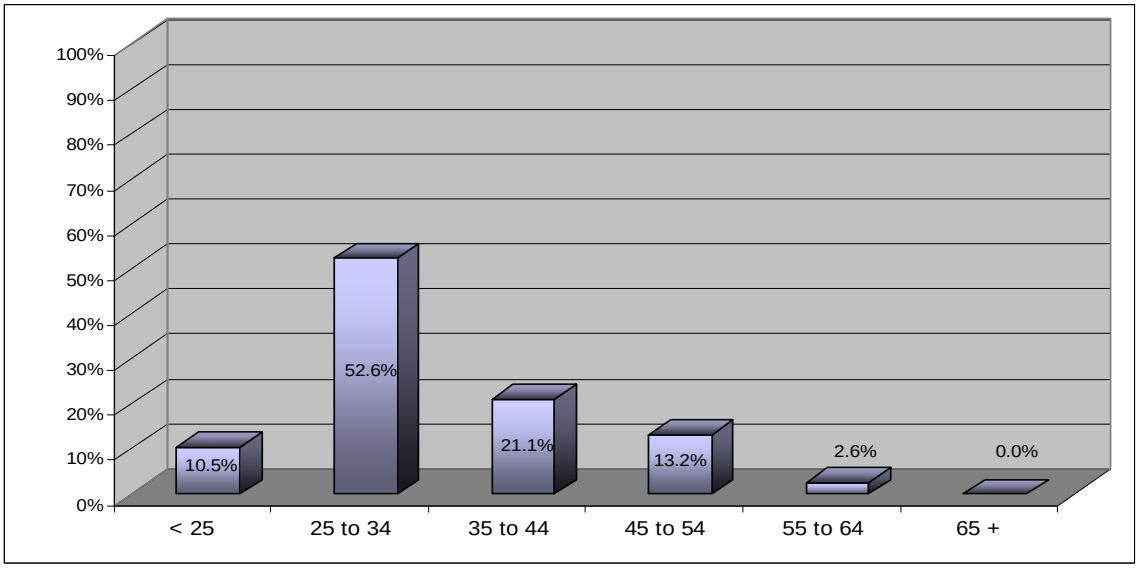
were female. This is in line with the demographics of the overall population asked to respond to the survey.

**Figure 1. Respondent Gender (n=38)** [52]



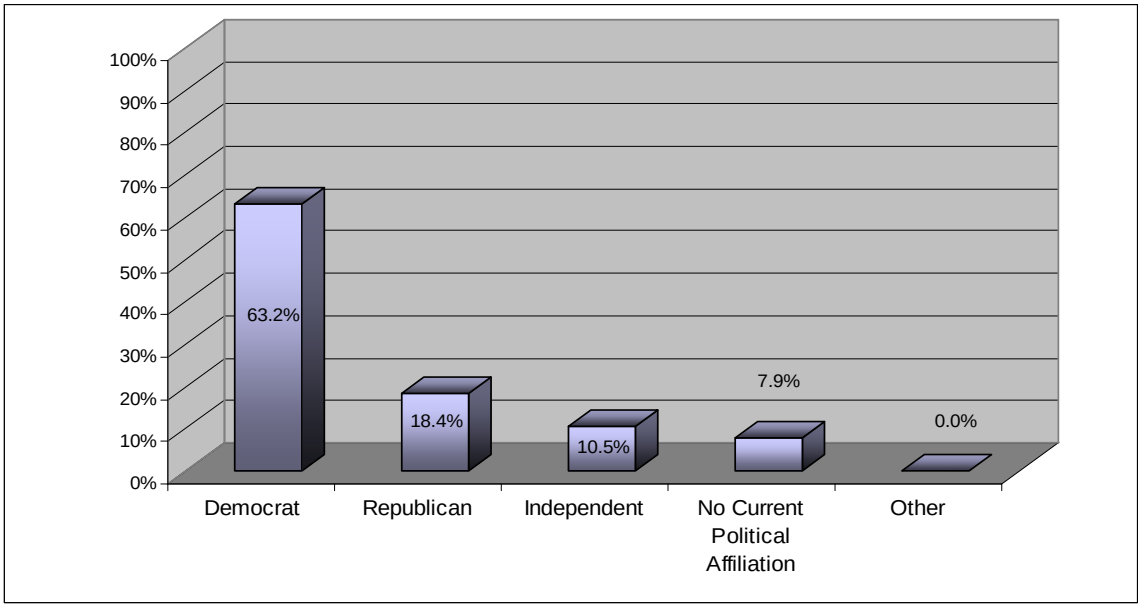

Additionally, Figure 2 illustrates that most of the respondents were relatively young, with 52.6% between the ages of twenty-five and thirty-four and another 21.1% between the ages of thirty-five and forty-four. Again, this is in line with the overall population who was asked to respond to the survey.

**Figure 2. Respondent Age (n=38)**[53]



In terms of political affiliation, the majority (63.2%) of respondents indicated they were Democrats, while only 18.4% indicated they had a Republican affiliation, as indicated in Figure 3. I wanted to ask this question because CDHPs have historically been promoted more so by Republicans (including the Bush Administration), than Democrats.

**Figure 3. Respondent Political Affiliation (n=38)[54]**

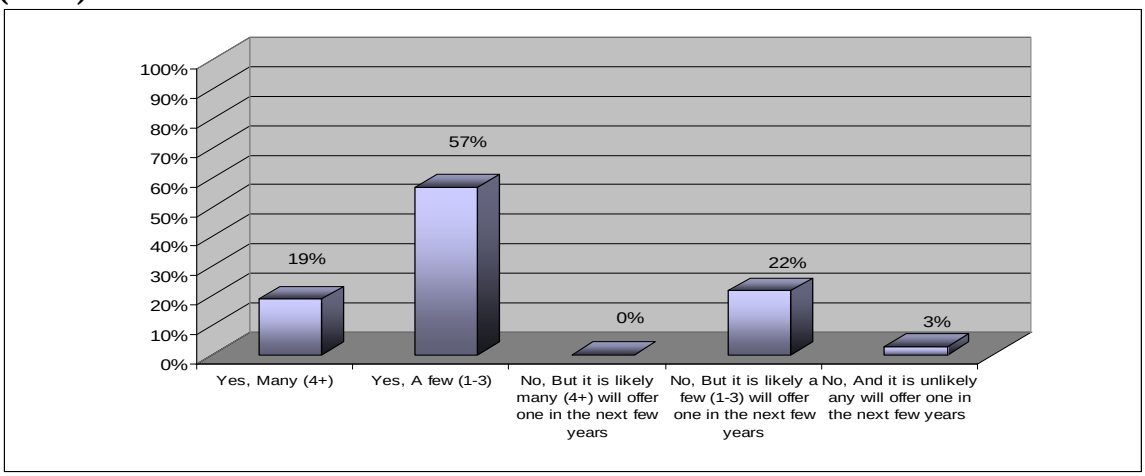



***Respondent's Client Experiences with CDHPs***

In order to evaluate the level of experience the survey respondents had with CDHPs and the overall experience of their clients who have offered one, I asked a series of six questions related to their level of experience working with CDHPs, the reasons their clients initially decided to offer a CDHP and then the impact thus far their client(s) have realized. As illustrated in Figure 4, most respondents have either worked with a few (1-3) or many (4 or more) clients that have offered either an HSA or HRA-based CDHP. An additional 22% of

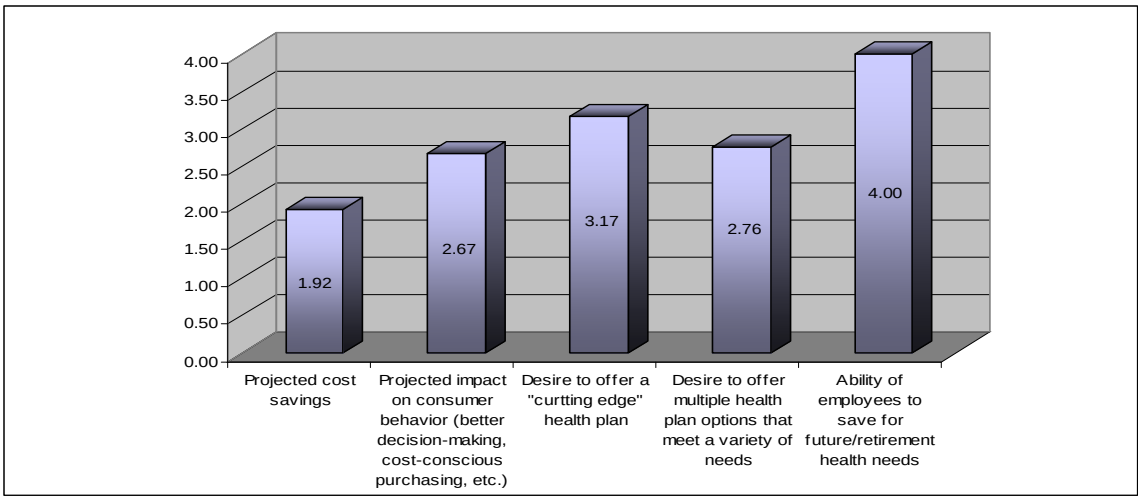
respondents indicated they have not worked with a client offering a CDHP yet, but they believe a few (1-3) of their clients will likely offer one over the next few years. Only a very small percentage (3%) indicated it was unlikely that any of their clients would offer a CDHP in the next few years.

**Figure 4. Respondents' Experience working with Clients Offering CDHPs (n=37)[55]**




When asked to rank a select list of reasons from most relevant to least relevant as to why their clients decided to offer a CDHP, most respondents indicated that projected cost savings was the most relevant reason, as illustrated in Figure 5. The projected impact on consumer behavior was the next most relevant reason, followed by the desire to offer multiple health plan options to meet a variety of needs.

**Figure 5. Reasons Respondent's Clients offered a CDHP (n=28)[56]**




The next two questions gauged whether or not respondents felt their client's realized the projected cost savings and projected impact on consumer behavior that led them to offer a CDHP in the first place. As you'll see in Figure 6 and Figure 7, most respondents feel that the projected cost savings and impact to consumer behavior have been partially realized (61.5% and 55.6%, respectively). There are also a fair percentage of respondents to each question who feel there is not yet enough data to determine the impact to either cost or consumer behavior. One noticeable difference between the results of these two questions is there is a larger percentage of respondents who feel the cost impact has not been realized at all (15.4%) compared to the percentage of respondents who feel the impact to consumer behavior has not been realized (7.4%).

**Figure 6. Respondent's Estimation of Realization of Projected Cost Impact (n=26)[57]**

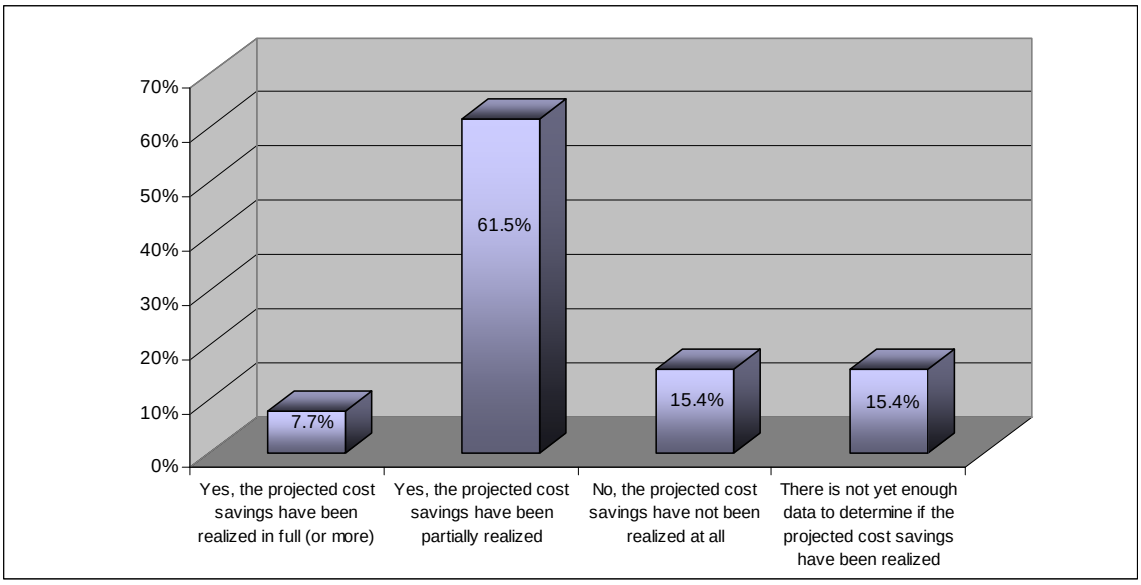
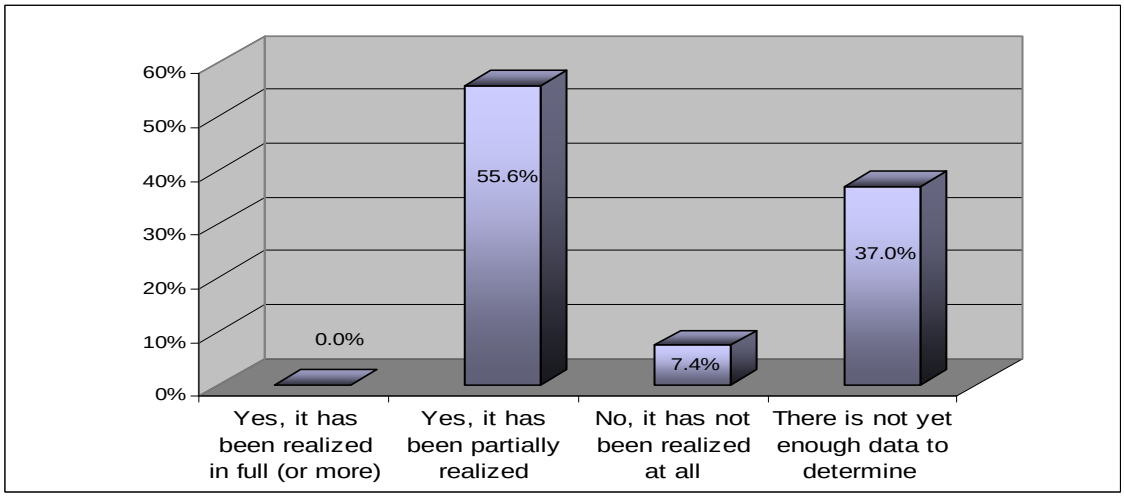


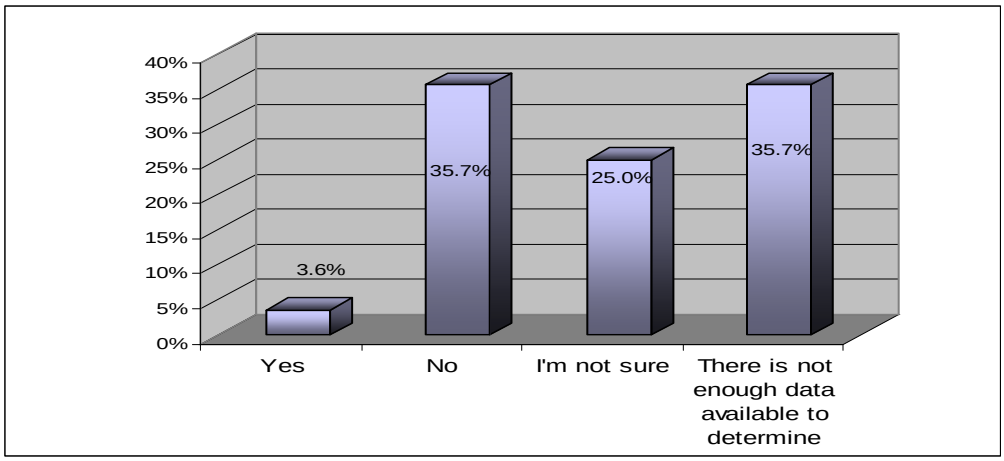

**Figure 7. Respondent's Estimation of Realization of Projected Cost Impact (n=27)[58]**




The next question asked of survey participants related to whether respondents have seen evidence indicating that those enrolled in their client's CDHP(s) may have delayed or avoided necessary health services for cost reasons. Because delaying necessary care may impact the long-term health of those in a CDHP, and it is an argument used by those against CDHPs, I thought it was

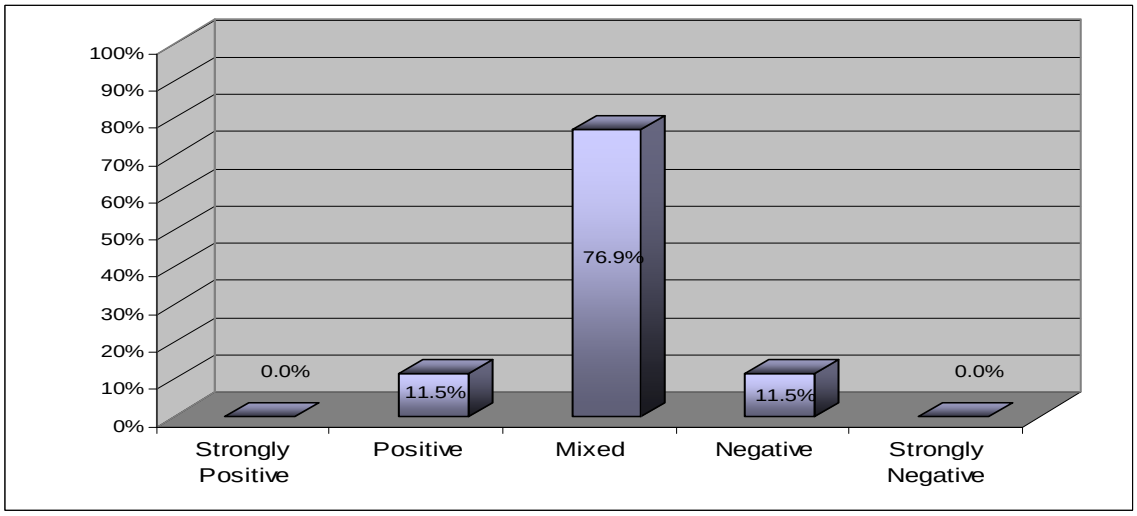
important to ask. As you'll see in Figure 8, the results of this question are mixed, with an equal percentage of respondents stating they have not seen evidence of care avoidance and that there is not enough data yet to determine (35.7% each).

**Figure 8. Evidence CDHP Participants Delay or Avoid Necessary Care (n=28)[59]**




The last question in this section of the survey asked how the employees of each client reacted when a CDHP was initially offered. Not surprisingly, most respondents indicated that their client's employees had mixed reactions when a CDHP was initially offered, as illustrated in Figure 9.

**Figure 9. Employee Reaction to CDHPs when Initially Offered (n=26)[60]**



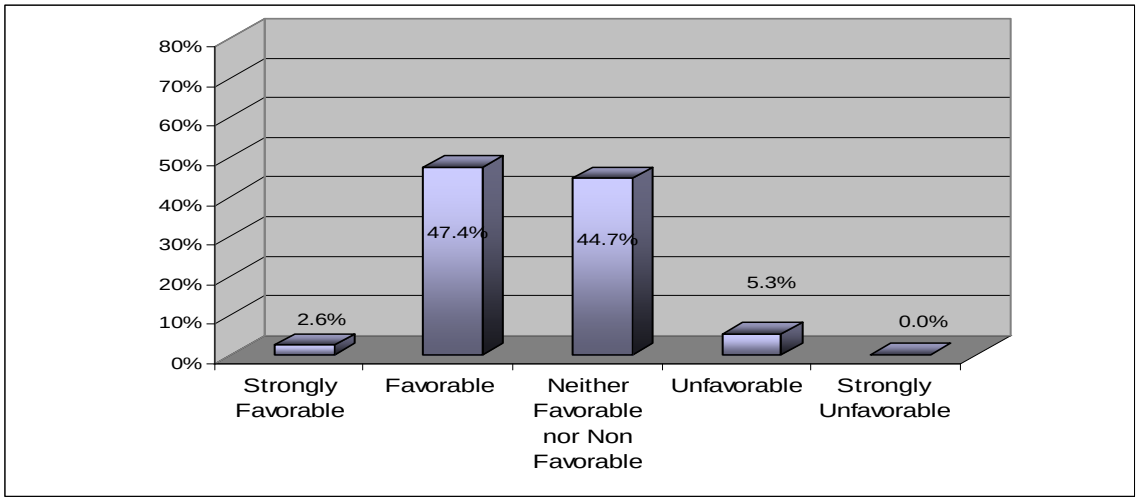
This result is not surprising because most employers have diversified populations, and it's likely a CDHP would not be an attractive plan option for all employees at all employers. However, I was pleasantly surprised that the percentage of respondents who feel their client's employees reacted negatively was fairly low, at 11.5%.

***Respondent's Own Opinions of CDHPs***

Because the respondents to this survey are experts in the employer-sponsored health plan field, I thought it was important to gauge their overall opinion of CDHPs in addition to asking what results they have seen from their clients. Therefore, the last section of the survey asked five questions related to their opinions on CDHPs thus far and their predictions for CDHPs in the future.

To begin, I asked how each respondent would evaluate their overall opinion of CDHPs based on their experience. As indicated in Figure 10, most respondents have a favorable opinion of CDHPs (47.4%). There is also a large percentage of respondents who indicated they have neither a favorable nor a non-favorable opinion of CDHPs (44.7%), and similarly as mentioned above regarding employee's opinions, this is not surprising.

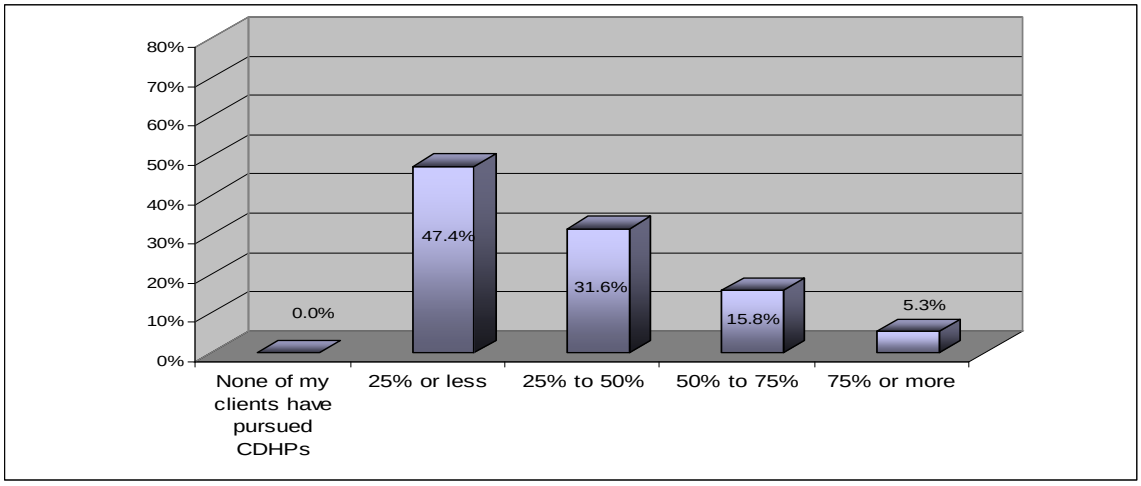
**Figure 10. Respondent Opinions of CDHPs (n=38)**[61]




However, when asked whether or not respondents are generally in favor of clients offering a CDHP (as long as doing so fits in with the client's goals and objectives), an overwhelming majority (94.7%) indicated that they are in favor.

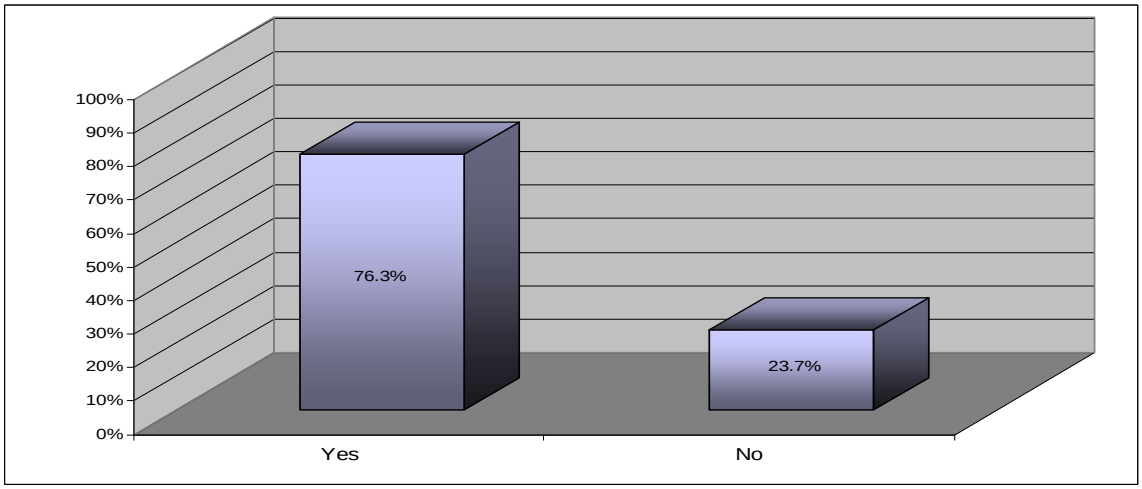
The next three questions attempted to gauge the likely growth and sustainability of CDHPs as part of the employer-sponsored health insurance market into the future. I began by asking what percentage of respondent's clients discuss or explore CDHPs as an option each year, and all respondents have some portion of clients evaluate them each year, with the majority having between twenty-five and fifty percent of their clients do so, as illustrated in Figure 11.

**Figure 11. Percentage of Respondent's Clients who Discuss/Explore CDHPs each Year (n=38)[62]**




Additionally, I asked whether respondents felt the current fragile state of the economy would result in a larger number of employers offering a CDHP to their employees, and most (86.8%) respondents indicated that they believe it will. Finally, when asked if respondents would include CDHPs as an integral part of the employer-sponsored market if asked to predict the future of the U.S. health insurance market 10 years from now, most responded that they believe CDHPs will have an integral role, as indicated in Figure 12.

**Figure 12. Prediction of CDHPs in Future of Health Insurance Market (n=38)[63]**



## Conclusion

Based on the data published so far from the studies on CDHPs, it is very difficult to make any conclusions regarding what the long-term impact of this newer health insurance model may be over time. The results to date have been fairly mixed, with some pointing to reductions in use of needed care for CDHP participants and others stating no difference between use of needed services between CDHP and non-CDHP participants.

Most studies do show cost-savings, but it is not apparent whether the difference is simply due to benefit design and the lower risk profile of those enrolling and a true impact on consumer behavior as a result of participating in a CDHP. It is also unclear what impact CDHPs will have on insurance risk pools over time, and if low-income individuals in CDHPs will realize negative long-term health outcomes similar to those found in the RAND HIE study. This will become a large concern if more employers decide to offer only a CDHP, which may happen in a downturn economy.

The results of my survey show similarly mixed results. While respondents themselves feel mostly positive towards CDHPs, they indicate mixed feelings for employees participating in these plans. Additionally, the survey results show the intended impact on cost and utilization has only been partially realized, or there is not yet enough data to determine results at this point.

However, the survey results do show strong interest in CDHPs by employer groups, and respondents predict that interest will grow more so given the current state of the economy. And finally as mentioned, a large majority of

respondents predict CDHPs will remain part of the employer-sponsored health insurance system over the next 10 years.

In order to truly measure the impact of CDHPs, a longer-term independent national study of CDHP participants is needed including participants in all health plans to provide any solid evidence. With this data, it can be determined the true impact CDHPs have had on consumer behavior, health care costs and long-term health outcomes. If the number of employers offering CDHPs continues to grow, the ability to conduct this type of study will greaten as will the ability to gain insight into the impact of such plans as the study population grows.

Based on the fairly inconclusive data available thus far, my policy recommendation for employers would be to be careful when considering CDHPs as a health insurance plan. I do think they have a place in the employer-sponsored health market, and I even believe that for certain populations, they are likely very attractive, for example high-paid generally healthy individuals who are looking for an additional savings vehicle. However, employers who are considering replacing their traditional health plan with a CDHP need to be careful because they will likely negatively impact their most vulnerable populations. Employers with low-paid and a generally unhealthy workforce may find that implementing a CDHP risks significant long-term negative effects which could worsen the condition of their population over time and eventually cost the employer more. On the other hand, CDHPs can be a good fit for employers who can afford to offer employees a choice between a CDHP and a more traditional health plan.

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